ET150396410US

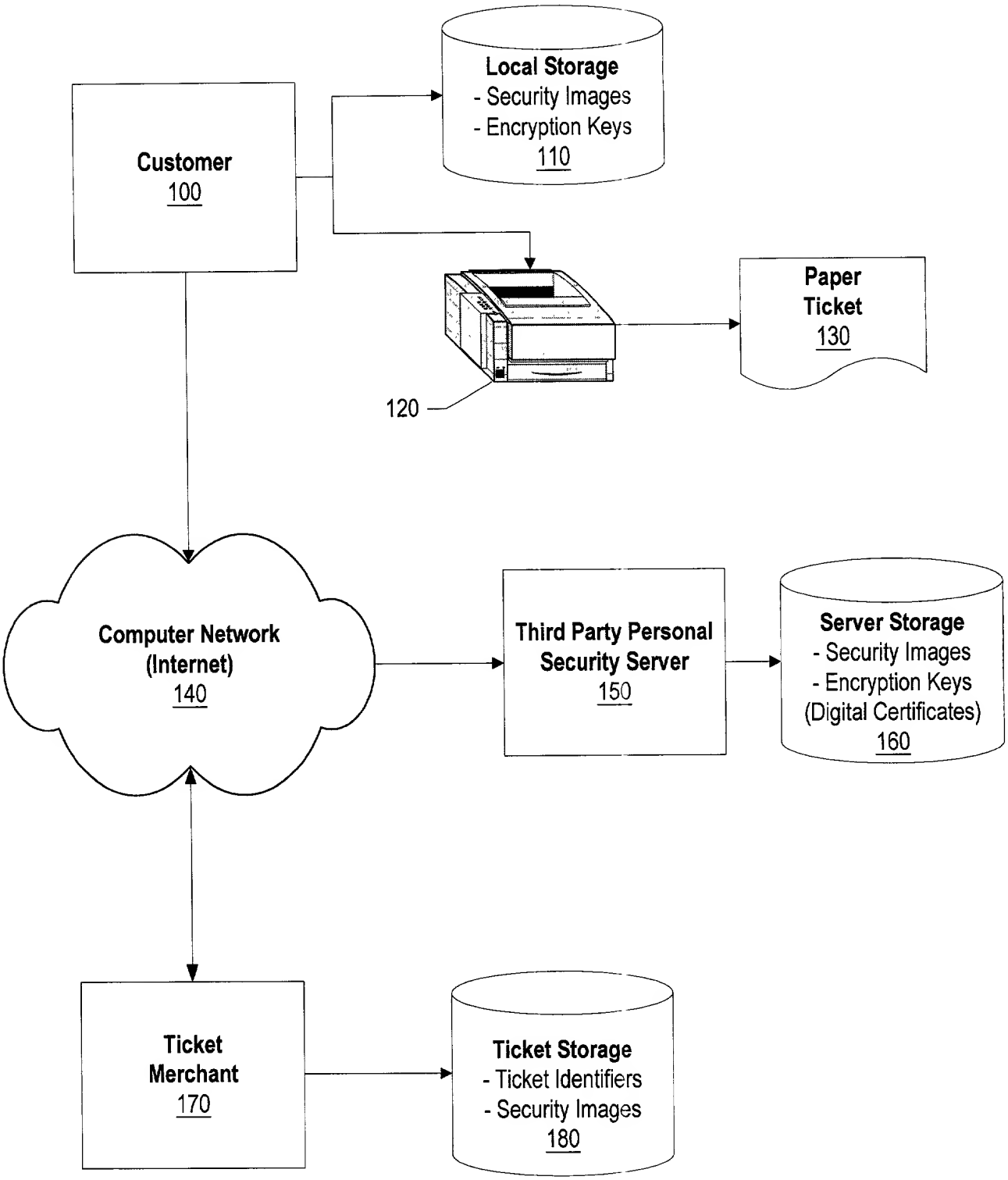

Figure 1

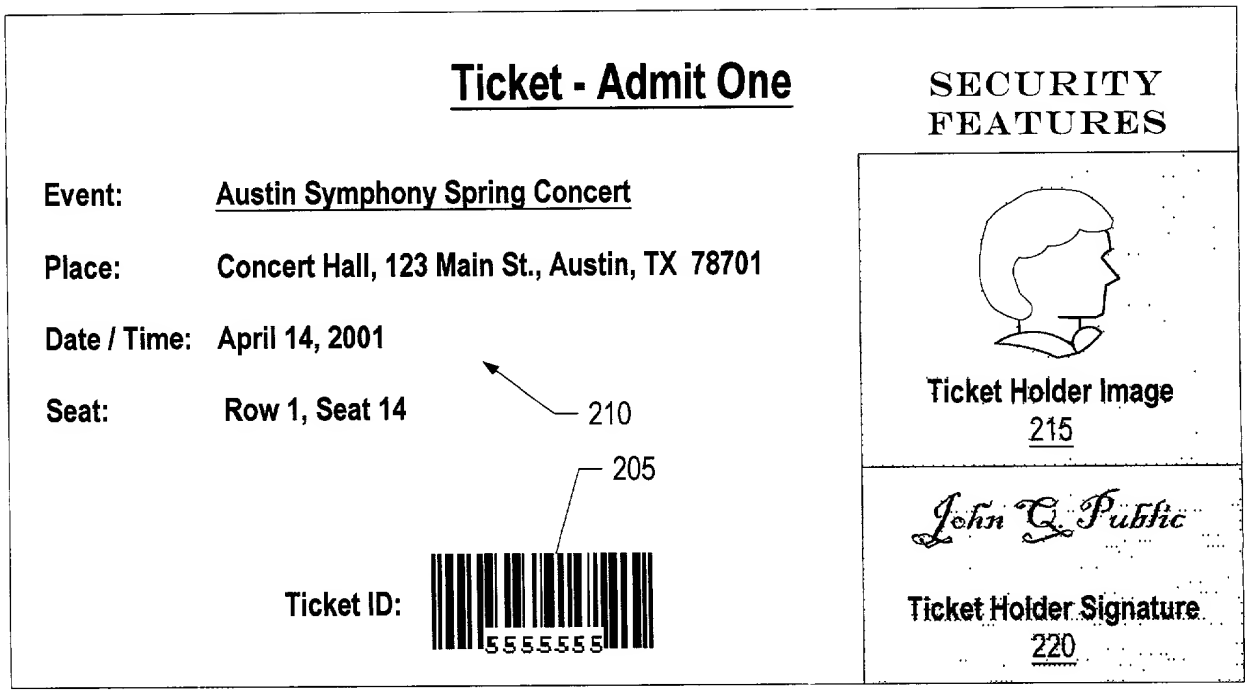

Figure 2a

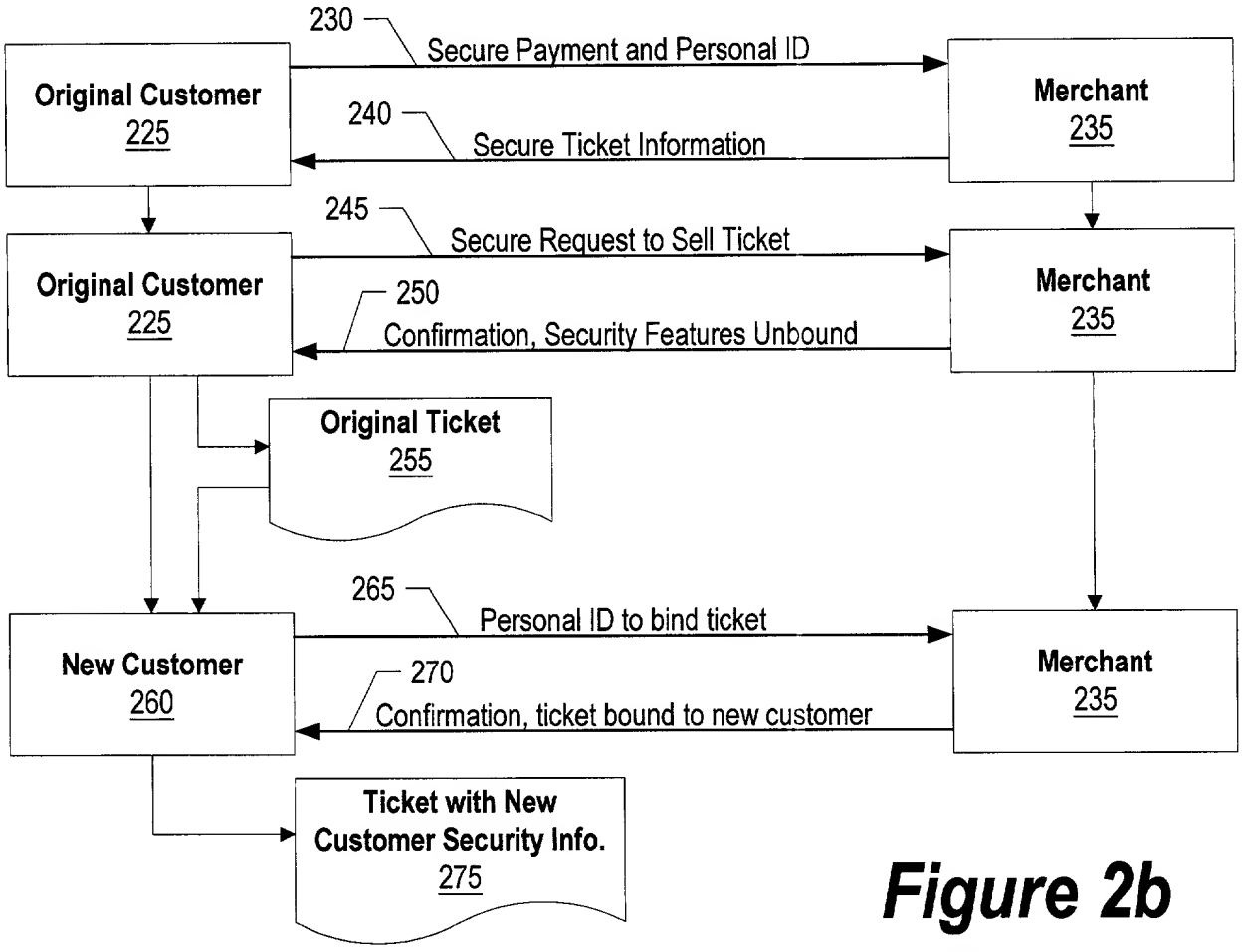

Figure 2b

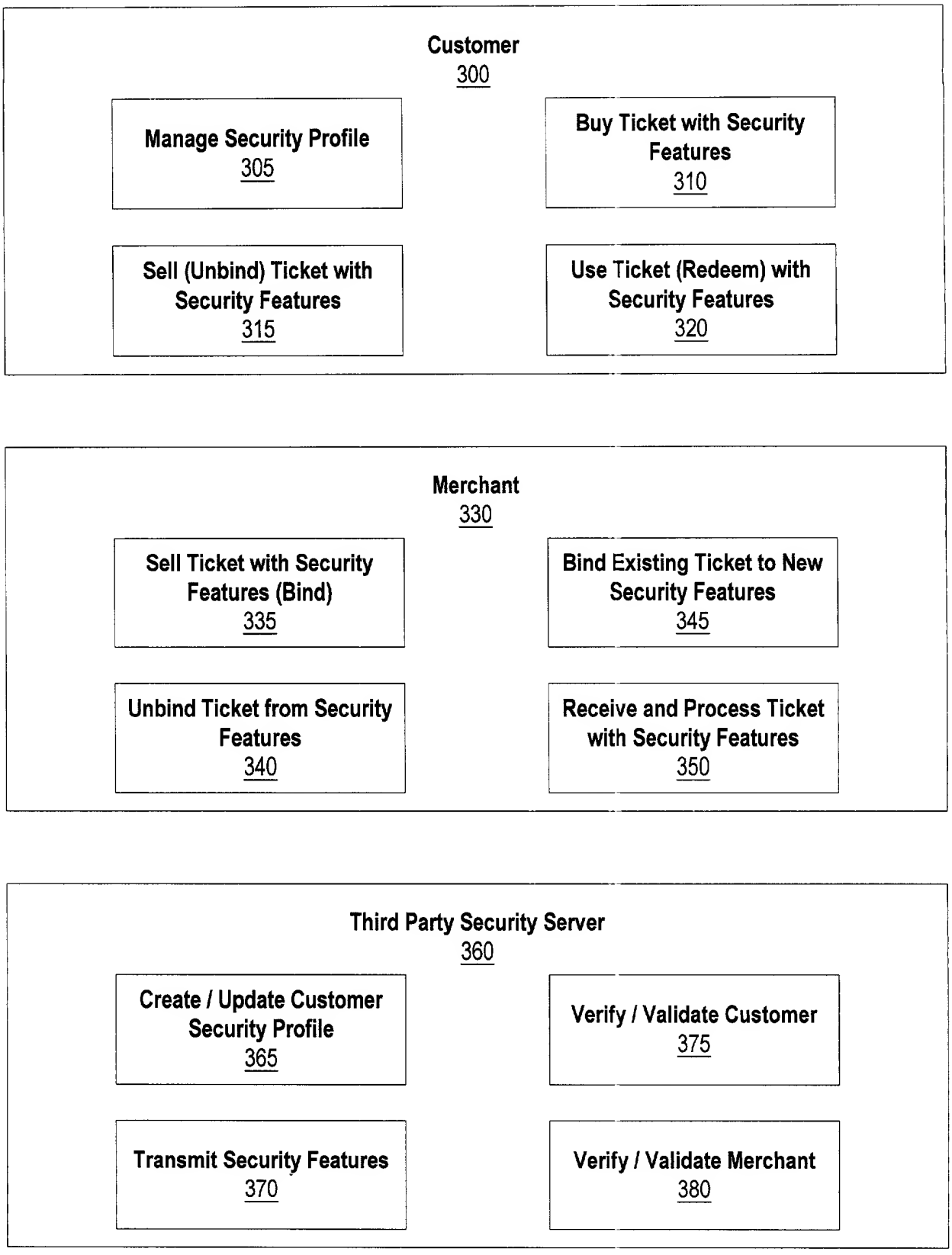
Customer
300
Manage Security Profile
305
Buy Ticket with Security Features
310
Sell (Unbind) Ticket with Security Features
315
Use Ticket (Redeem) with Security Features
320
Merchant
330
Sell Ticket with Security Features (Bind)
335
Bind Existing Ticket to New Security Features
345
Unbind Ticket from Security Features
340
Receive and Process Ticket with Security Features
350
Third Party Security Server
360
Create / Update Customer Security Profile
365
Verify / Validate Customer
375
Transmit Security Features
370
Verify / Validate Merchant
380

Figure 3

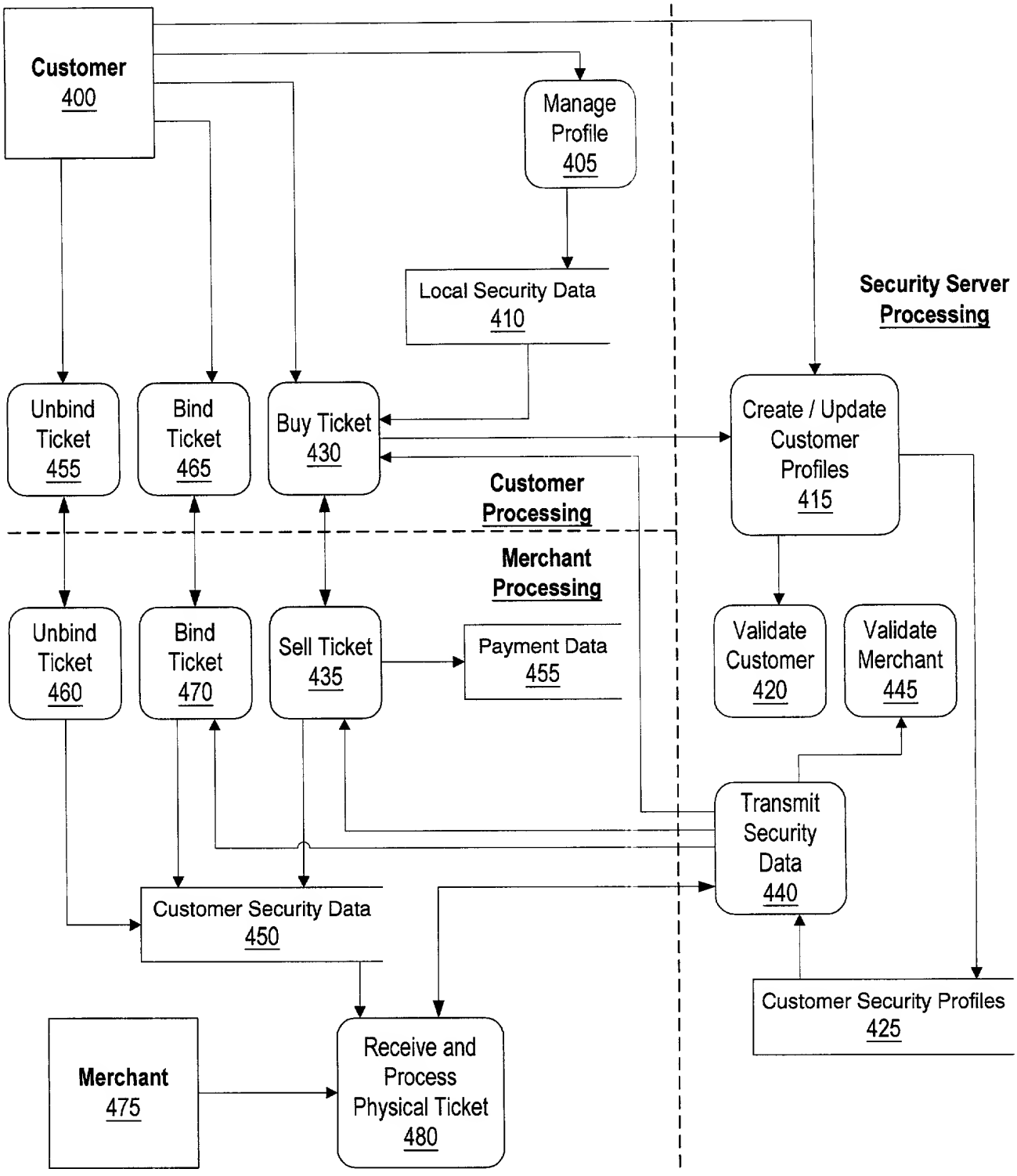
Customer
400
Manage
Profile
405
Local Security Data
410
Security Server
Processing
Unbind
Ticket
455
Bind
Ticket
465
Buy Ticket
430
Create / Update
Customer
Profiles
415
Customer
Processing
Merchant
Processing
Unbind
Ticket
460
Bind
Ticket
470
Sell Ticket
435
Payment Data
455
Validate
Customer
420
Validate
Merchant
445
Transmit
Security
Data
440
Customer Security Data
450
Customer Security Profiles
425
Merchant
475
Receive and
Process
Physical Ticket
480

Figure 4

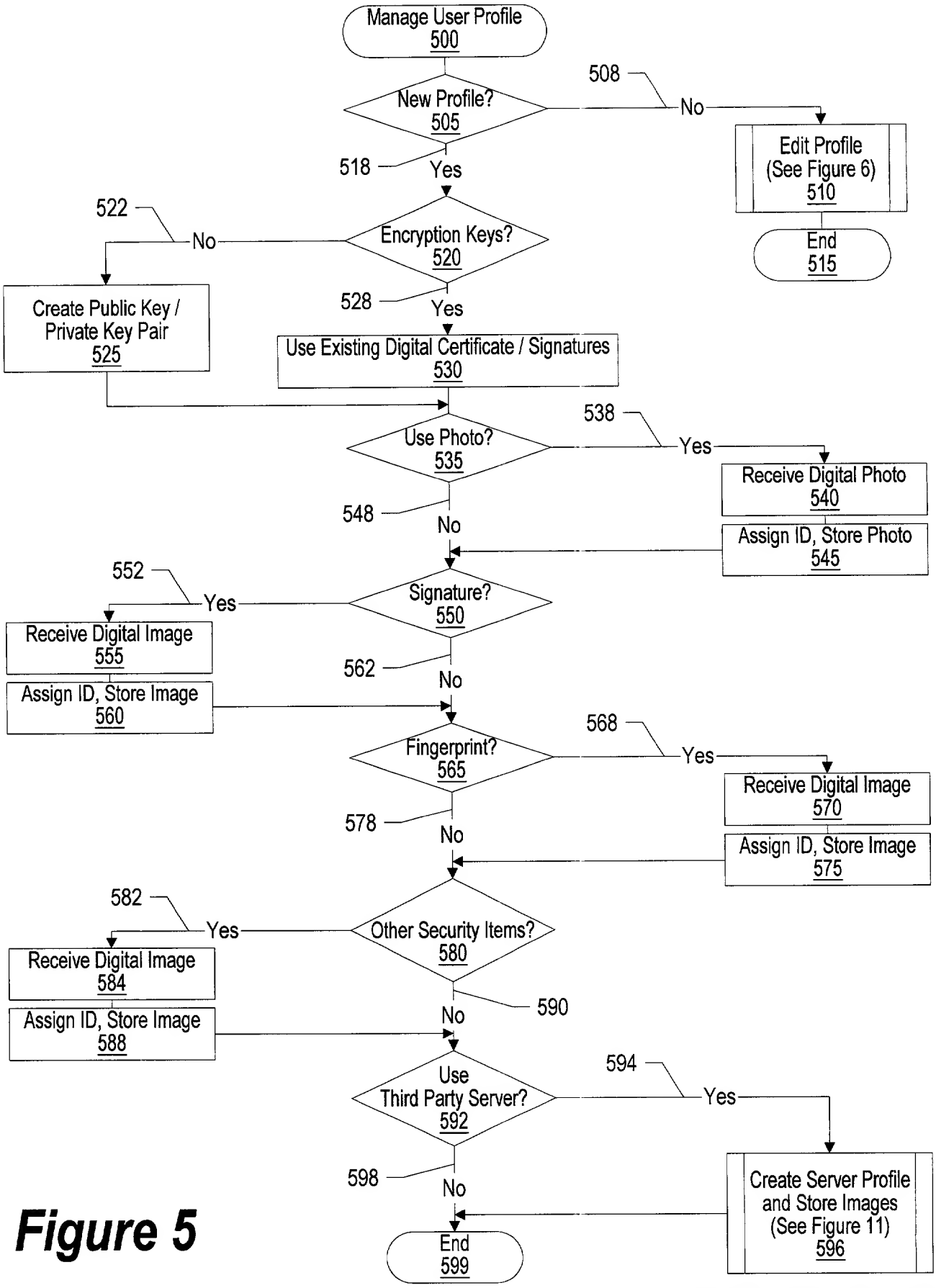
Manage User Profile
500
New Profile?
505
508
No
Edit Profile
(See Figure 6)
510
End
515
518
Yes
Encryption Keys?
520
522
No
Create Public Key /
Private Key Pair
525
528
Yes
Use Existing Digital Certificate / Signatures
530
Use Photo?
535
538
Yes
Receive Digital Photo
540
Assign ID, Store Photo
545
548
No
Signature?
550
552
Yes
Receive Digital Image
555
Assign ID, Store Image
560
562
No
Fingerprint?
565
568
Yes
Receive Digital Image
570
Assign ID, Store Image
575
578
No
Other Security Items?
580
582
Yes
Receive Digital Image
584
Assign ID, Store Image
588
590
No
Use
Third Party Server?
592
594
Yes
Create Server Profile
and Store Images
(See Figure 11)
596
598
No
End
599

Figure 5

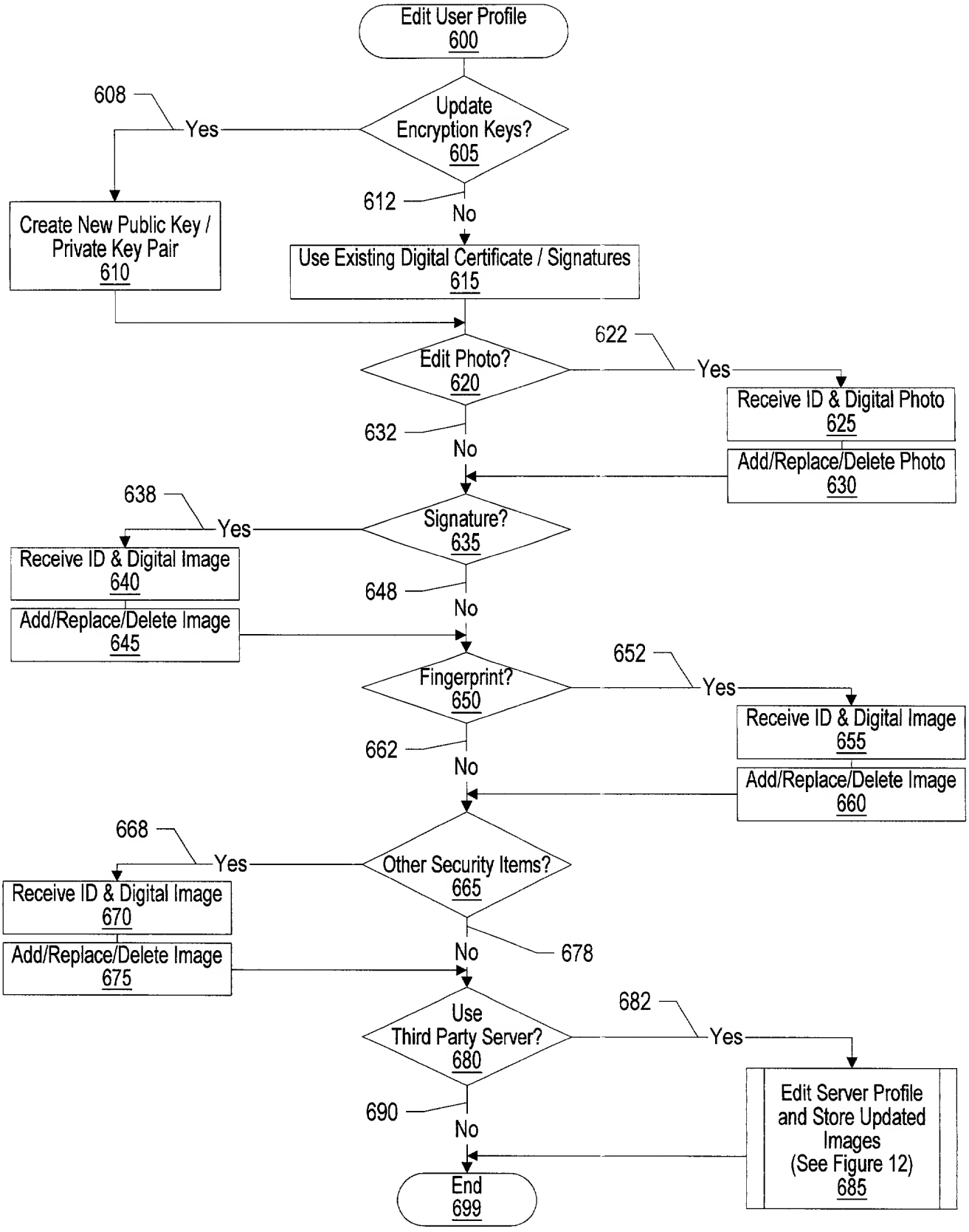
Edit User Profile
600
Update Encryption Keys?
605
608
Yes
612
No
Create New Public Key / Private Key Pair
610
Use Existing Digital Certificate / Signatures
615
Edit Photo?
620
622
Yes
Receive ID & Digital Photo
625
632
No
Add/Replace/Delete Photo
630
Signature?
635
638
Yes
Receive ID & Digital Image
640
648
No
Add/Replace/Delete Image
645
Fingerprint?
650
652
Yes
Receive ID & Digital Image
655
662
No
Add/Replace/Delete Image
660
Other Security Items?
665
668
Yes
Receive ID & Digital Image
670
No
678
Add/Replace/Delete Image
675
Use Third Party Server?
680
682
Yes
Edit Server Profile and Store Updated Images (See Figure 12)
685
690
No
End
699

Figure 6

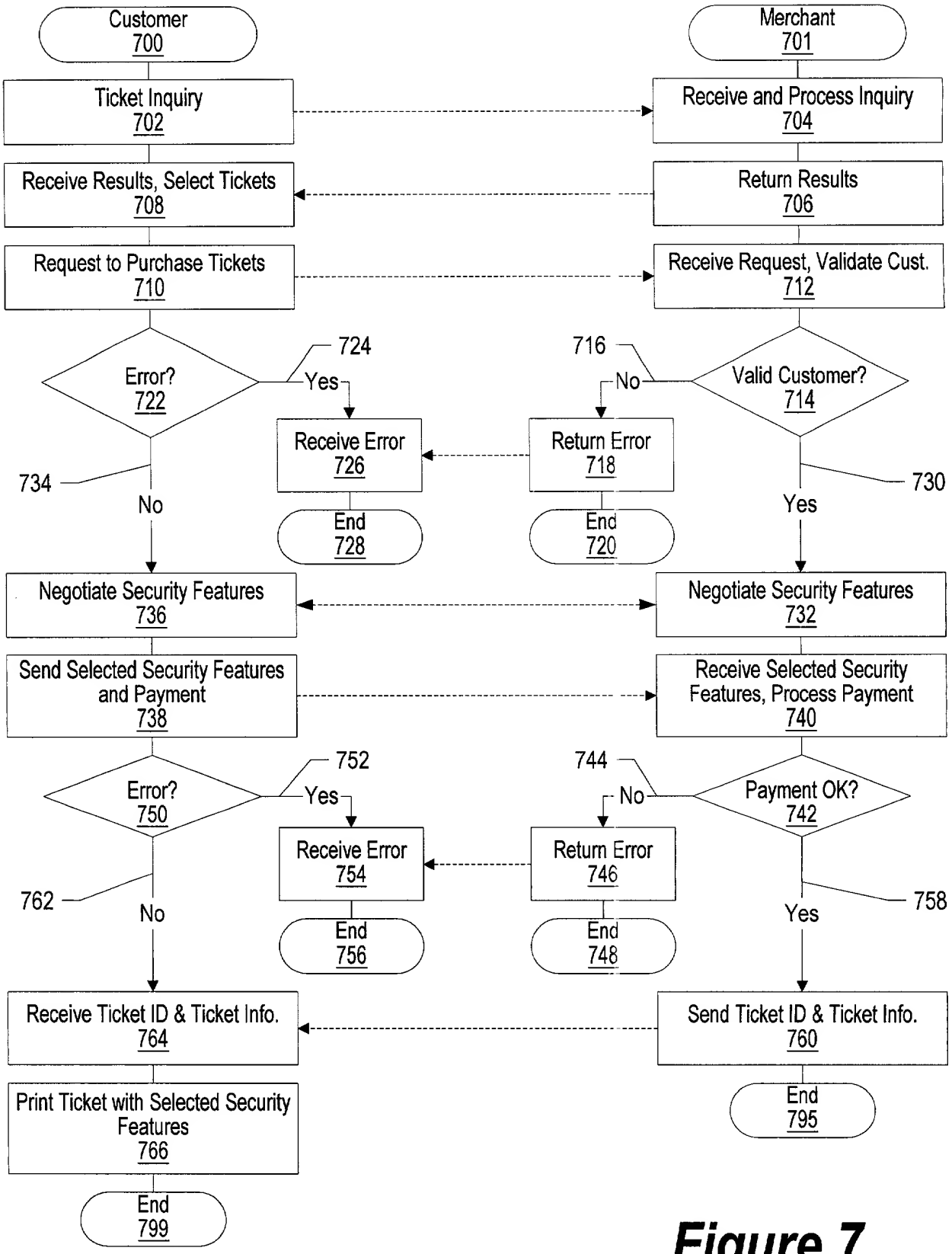
Customer
700
Merchant
701
Ticket Inquiry
702
Receive and Process Inquiry
704
Receive Results, Select Tickets
708
Return Results
706
Request to Purchase Tickets
710
Receive Request, Validate Cust.
712
Error?
722
724
Yes
716
No
Valid Customer?
714
Receive Error
726
Return Error
718
734
No
730
Yes
End
728
End
720
Negotiate Security Features
736
Negotiate Security Features
732
Send Selected Security Features and Payment
738
Receive Selected Security Features, Process Payment
740
Error?
750
752
Yes
744
No
Payment OK?
742
Receive Error
754
Return Error
746
762
No
758
Yes
End
756
End
748
Receive Ticket ID & Ticket Info.
764
Send Ticket ID & Ticket Info.
760
Print Ticket with Selected Security Features
766
End
795
End
799

Figure 7

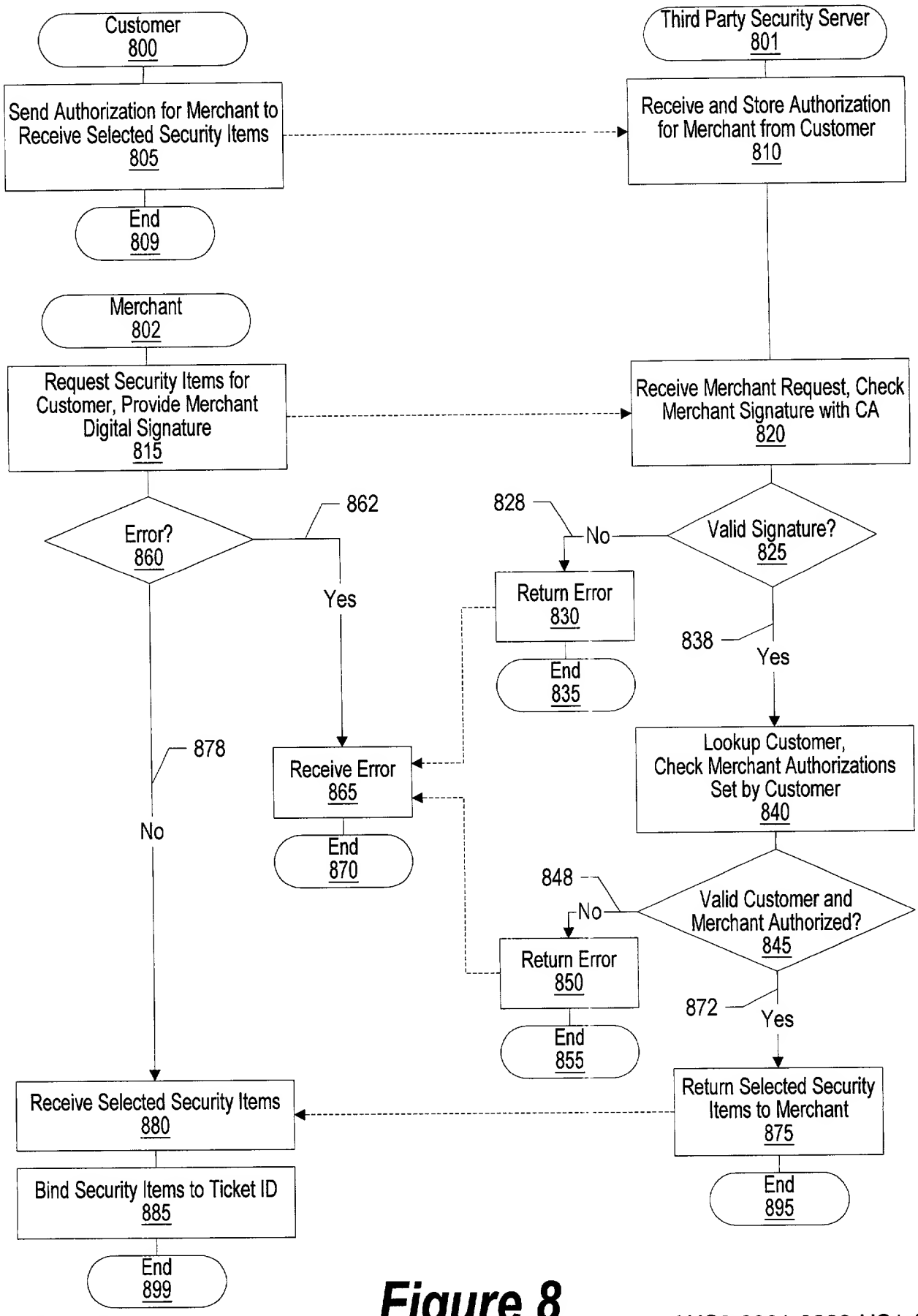
Customer
800
Send Authorization for Merchant to Receive Selected Security Items
805
End
809
Third Party Security Server
801
Receive and Store Authorization for Merchant from Customer
810
Merchant
802
Request Security Items for Customer, Provide Merchant Digital Signature
815
Receive Merchant Request, Check Merchant Signature with CA
820
Error?
860
862
Yes
No
828
Valid Signature?
825
Return Error
830
End
835
838
Yes
878
Receive Error
865
End
870
Lookup Customer, Check Merchant Authorizations Set by Customer
840
848
No
Valid Customer and Merchant Authorized?
845
Return Error
850
End
855
872
Yes
Receive Selected Security Items
880
Return Selected Security Items to Merchant
875
Bind Security Items to Ticket ID
885
End
895
End
899

Figure 8

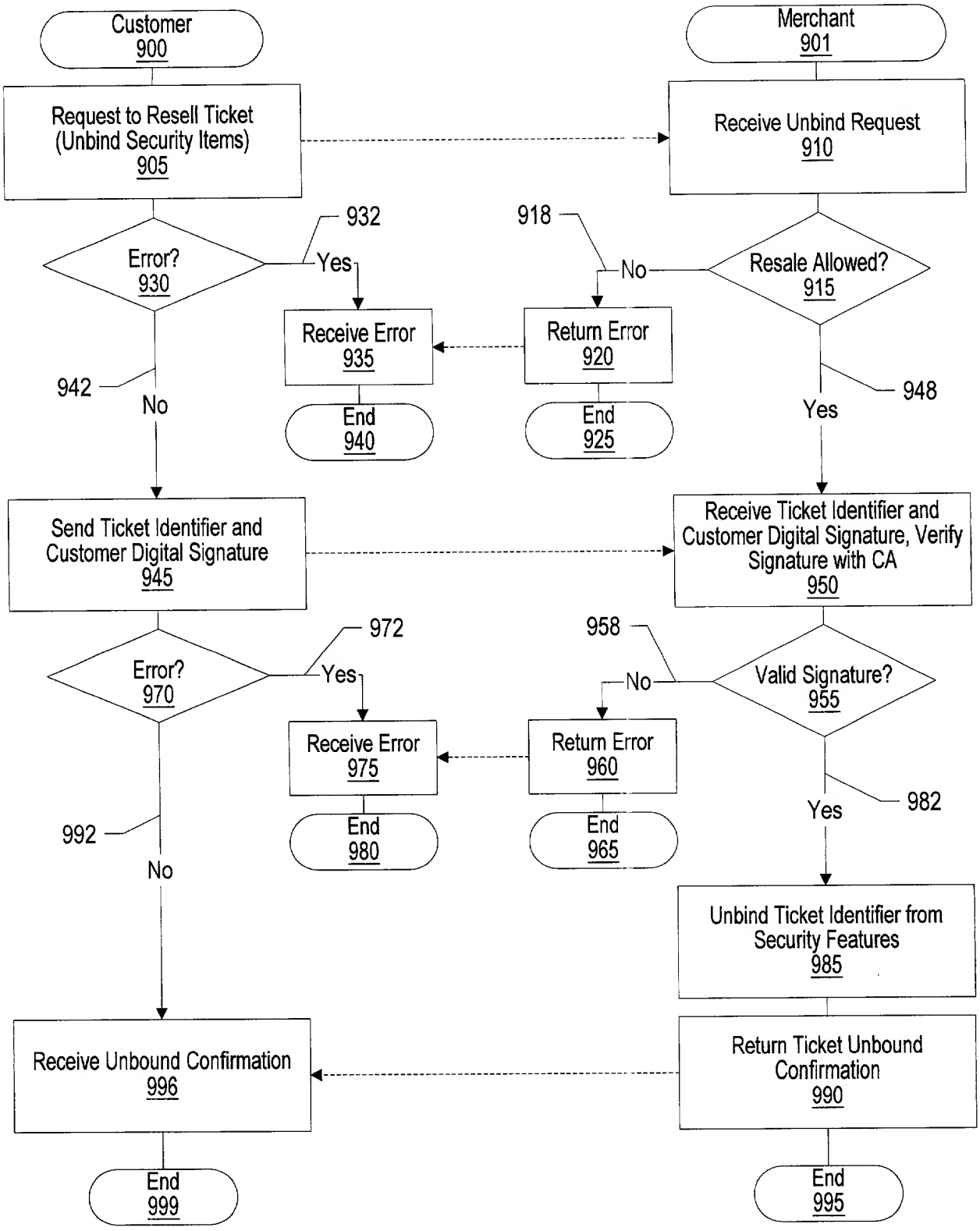
Customer
900
Merchant
901
Request to Resell Ticket (Unbind Security Items)
905
Receive Unbind Request
910
Error?
930
932
Yes
918
No
Resale Allowed?
915
Receive Error
935
Return Error
920
End
940
End
925
942
No
948
Yes
Send Ticket Identifier and Customer Digital Signature
945
Receive Ticket Identifier and Customer Digital Signature, Verify Signature with CA
950
Error?
970
972
Yes
958
No
Valid Signature?
955
Receive Error
975
Return Error
960
End
980
End
965
992
No
Yes
982
Unbind Ticket Identifier from Security Features
985
Receive Unbound Confirmation
996
Return Ticket Unbound Confirmation
990
End
999
End
995

Figure 9

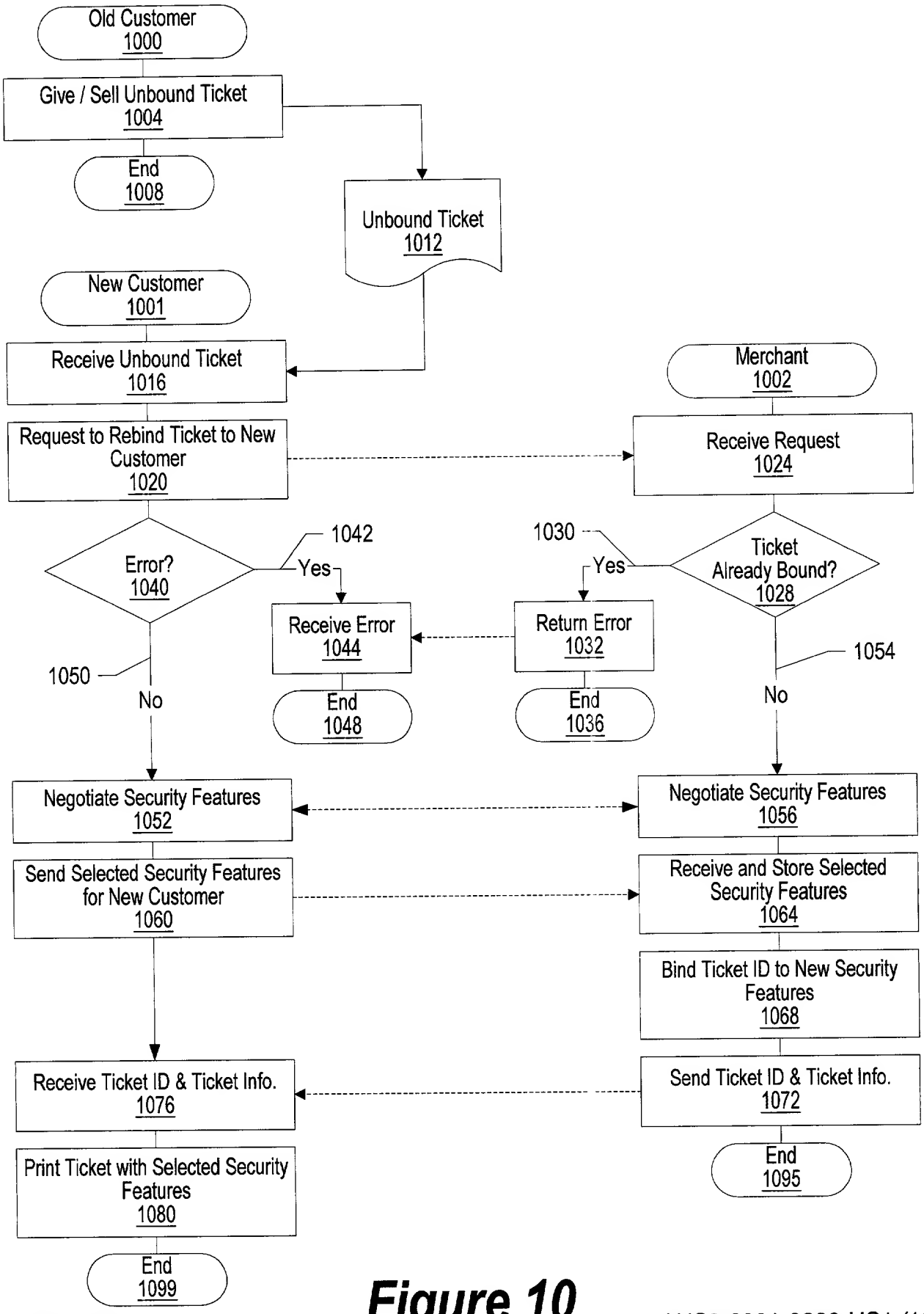
Old Customer
1000
Give / Sell Unbound Ticket
1004
End
1008
Unbound Ticket
1012
New Customer
1001
Receive Unbound Ticket
1016
Request to Rebind Ticket to New Customer
1020
Merchant
1002
Receive Request
1024
Error?
1040
1042
Yes
Receive Error
1044
End
1048
1050
No
1030
Yes
Return Error
1032
End
1036
Ticket Already Bound?
1028
1054
No
Negotiate Security Features
1052
Negotiate Security Features
1056
Send Selected Security Features for New Customer
1060
Receive and Store Selected Security Features
1064
Bind Ticket ID to New Security Features
1068
Receive Ticket ID & Ticket Info.
1076
Send Ticket ID & Ticket Info.
1072
End
1095
Print Ticket with Selected Security Features
1080
End
1099

Figure 10

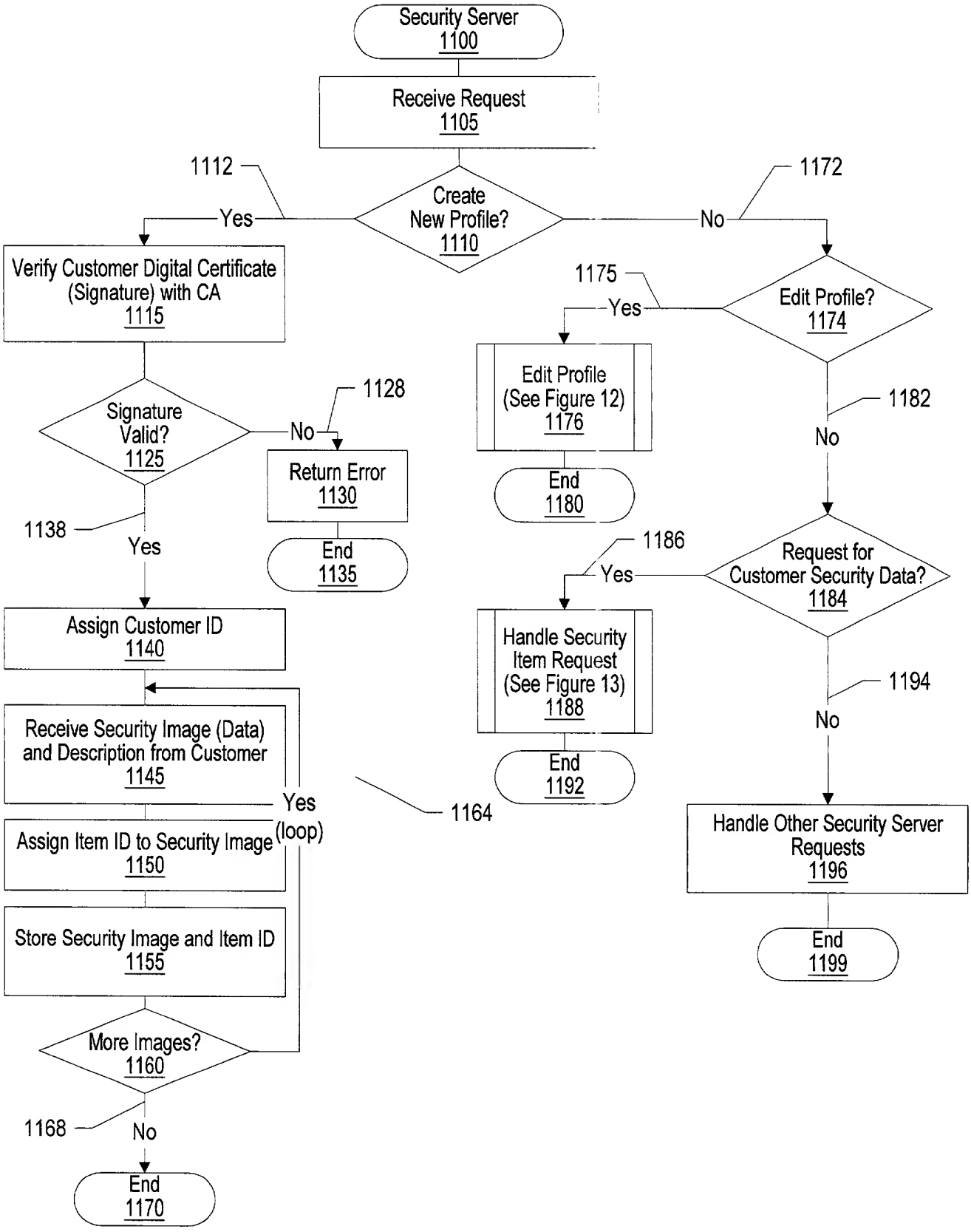
Security Server
1100
Receive Request
1105
1112
Create
New Profile?
1110
Yes
No
1172
Verify Customer Digital Certificate
(Signature) with CA
1115
1175
Yes
Edit Profile?
1174
Edit Profile
(See Figure 12)
1176
End
1180
1182
No
Signature
Valid?
1125
No
1128
Return Error
1130
End
1135
1138
Yes
Request for
Customer Security Data?
1184
1186
Yes
Handle Security
Item Request
(See Figure 13)
1188
End
1192
1194
No
Assign Customer ID
1140
Receive Security Image (Data)
and Description from Customer
1145
Yes
(loop)
1164
Assign Item ID to Security Image
1150
Store Security Image and Item ID
1155
Handle Other Security Server
Requests
1196
End
1199
More Images?
1160
1168
No
End
1170

Figure 11

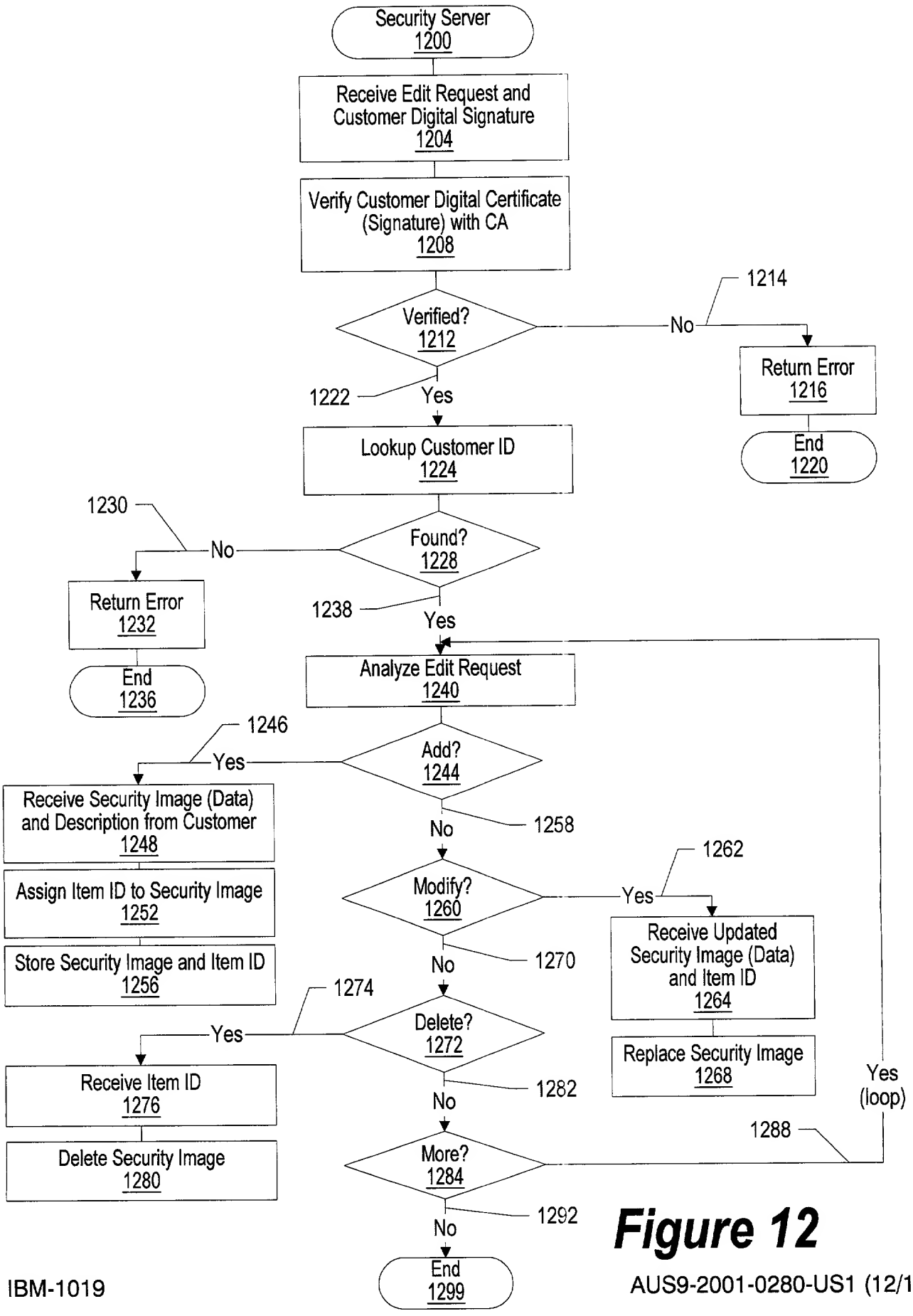
Security Server
1200
Receive Edit Request and Customer Digital Signature
1204
Verify Customer Digital Certificate (Signature) with CA
1208
Verified?
1212
1214
No
Return Error
1216
End
1220
1222
Yes
Lookup Customer ID
1224
Found?
1228
1230
No
Return Error
1232
End
1236
1238
Yes
Analyze Edit Request
1240
Add?
1244
1246
Yes
Receive Security Image (Data) and Description from Customer
1248
Assign Item ID to Security Image
1252
Store Security Image and Item ID
1256
1258
No
Modify?
1260
1262
Yes
Receive Updated Security Image (Data) and Item ID
1264
Replace Security Image
1268
1270
No
Delete?
1272
1274
Yes
Receive Item ID
1276
Delete Security Image
1280
1282
No
More?
1284
1288
Yes (loop)
1292
No
End
1299

Figure 12

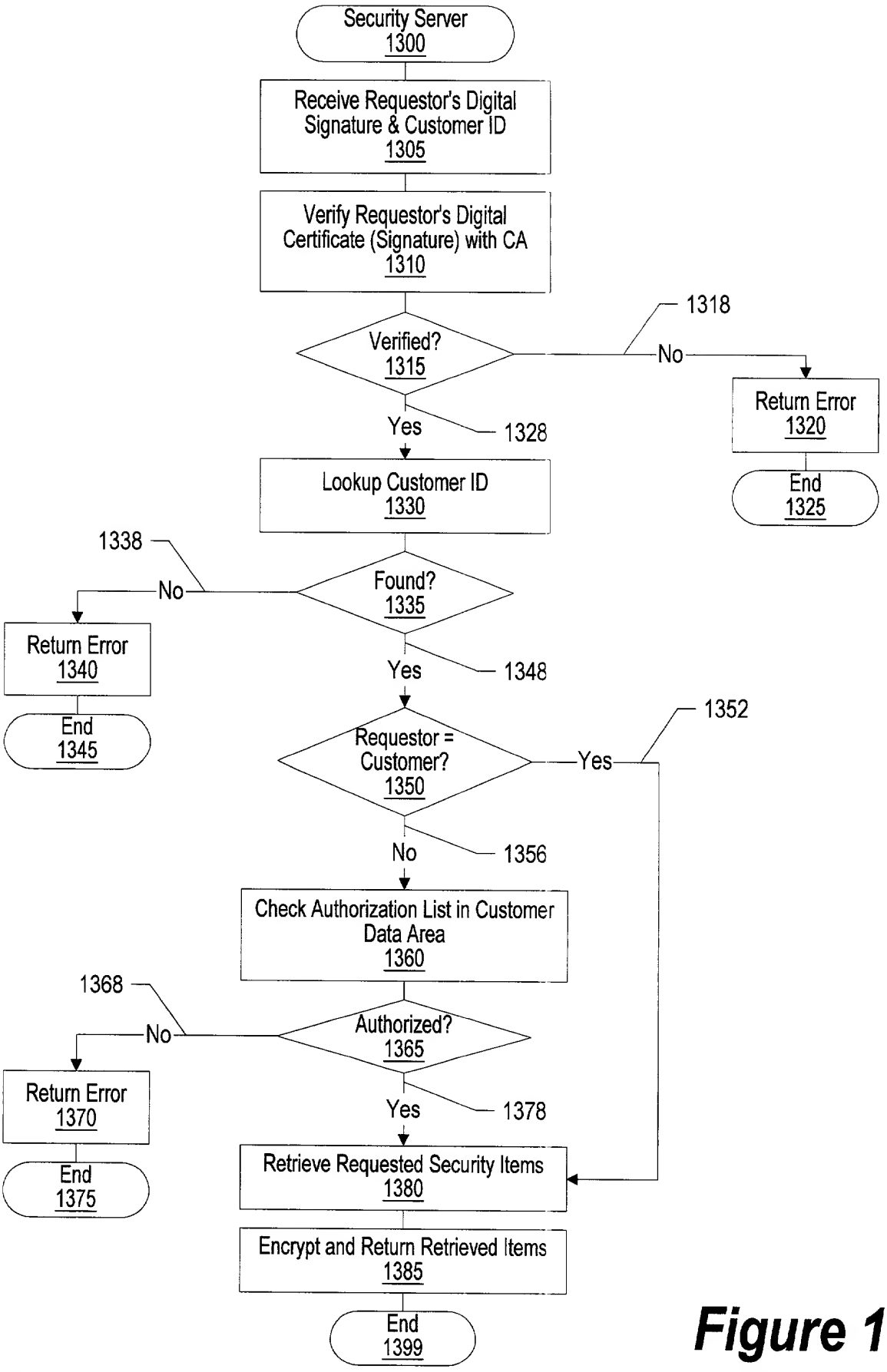
Security Server
1300
Receive Requestor's Digital Signature & Customer ID
1305
Verify Requestor's Digital Certificate (Signature) with CA
1310
Verified?
1315
1318
No
Return Error
1320
End
1325
Yes
1328
Lookup Customer ID
1330
1338
Found?
1335
No
Return Error
1340
End
1345
Yes
1348
Requestor = Customer?
1350
1352
Yes
No
1356
Check Authorization List in Customer Data Area
1360
1368
Authorized?
1365
No
Return Error
1370
End
1375
Yes
1378
Retrieve Requested Security Items
1380
Encrypt and Return Retrieved Items
1385
End
1399

Figure 13

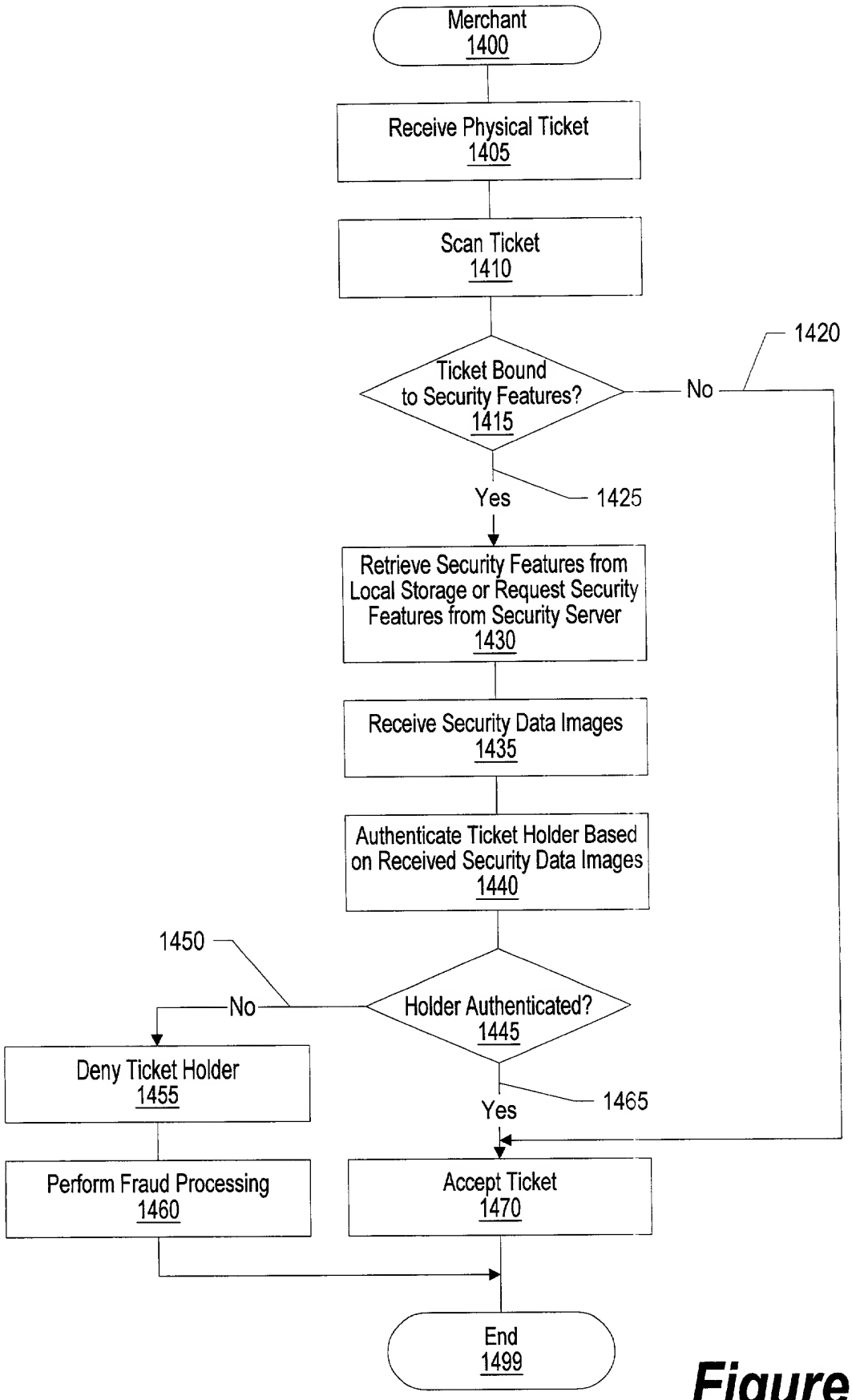
Merchant
1400
Receive Physical Ticket
1405
Scan Ticket
1410
Ticket Bound to Security Features?
1415
1420
No
Yes
1425
Retrieve Security Features from Local Storage or Request Security Features from Security Server
1430
Receive Security Data Images
1435
Authenticate Ticket Holder Based on Received Security Data Images
1440
1450
Holder Authenticated?
1445
No
Deny Ticket Holder
1455
Yes
1465
Perform Fraud Processing
1460
Accept Ticket
1470
End
1499

Figure 14

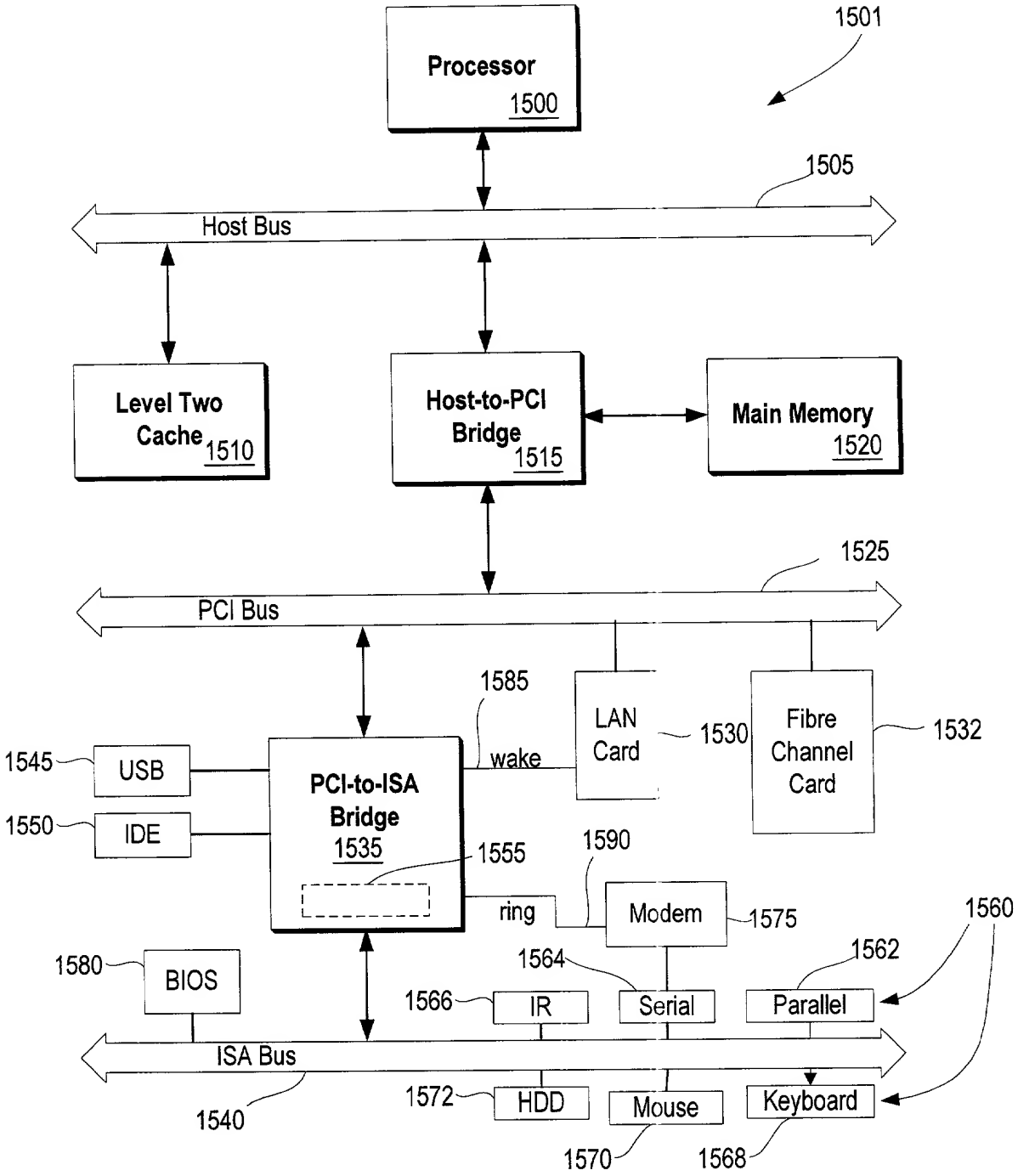
1501
Processor
1500
1505
Host Bus
Level Two
Cache
1510
Host-to-PCI
Bridge
1515
Main Memory
1520
1525
PCI Bus
1585
LAN
Card
1530
Fibre
Channel
Card
1532
1545
USB
wake
PCI-to-ISA
Bridge
1535
1550
IDE
1555
1590
ring
Modem
1575
1560
1562
1564
1580
BIOS
1566
IR
Serial
Parallel
ISA Bus
1572
HDD
Mouse
Keyboard
1540
1570
1568

Figure 15